

84/717

10. The system according to claim 8, further comprising a phosphor for converting a wavelength of radiation.--

REMARKS

This is a divisional application of Application No. 09/185,717 filed November 4, 1998 (the "'717 Application").

Applicants claim priority under 35 U.S.C. § 119 based upon Japanese Priority Applications No. 9-301673, filed November 4, 1997, and respectfully request acknowledgment of this claim and of receipt of the certified copy of the priority document, which was filed January 27, 1999, in the '717 Application.

Claims 1-10 remain pending in this application. New Claims 9 and 10 have been added to provide Applicants with a more complete scope of protection. Claims 1, 4 and 8 are in independent form.

Entry of this Supplemental Preliminary Amendment and favorable consideration is earnestly requested.

Applicants' undersigned attorney may be reached in our New York office by telephone at (212) 218-2100. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE TO CLAIMS

1. (Amended) A photoelectric converter comprising a photoelectric conversion element of a laminated structure comprising:

a first electrode layer;

an insulation layer for blocking the passage of a first carrier and a second carrier having different polarity from the first carrier;

a photoelectric conversion semiconductor layer;

an injection blocking layer for blocking the injection of the first carrier to the photoelectric conversion semiconductor layer; [and]

a second electrode layer; and

[wherein] a switching means [is provided] for operating the converter by switching through the following three operation modes a) through c), in that order, [for applying] to apply an electric field to each layer of the photoelectric conversion element[;]:

a) an idling mode for emitting the second carrier from the photoelectric conversion element;

b) a [refreshment] refresh mode for

refreshing the first carrier accumulated in the photoelectric conversion element; and

c) a photoelectric conversion mode for generating pairs of the first carrier and the second carrier in accordance with an amount of incident light to accumulate the first carrier.

2. (Amended) The photoelectric converter according to claim 1, wherein a potential difference $[(V_{dg}[\text{idle}])]$ $V_{dg}[\text{idle}]$ obtained by subtracting the potential of the second electrode layer from the potential of the first electrode layer of the photoelectric conversion element in the idling mode is [a positive value $(0 < V_{dg}[\text{idle}] < V_{dg}[\text{read}])$] smaller than [the] a potential difference $V_{dg}[\text{read}]$ obtained by subtracting the potential of the second electrode layer from the potential of the first electrode layer of the photoelectric conversion element in the photoelectric conversion mode.

3. (Amended) The photoelectric converter according to claim 1, wherein a recess mode of the photoelectric conversion element is provided for applying a zero electric field to each layer before the idling mode.

5. The method for driving a photoelectric converter according to claim 4, wherein a potential difference $[(V_{dg}[\text{idle}])]$ $V_{dg}[\text{idle}]$ obtained by subtracting the potential of the second electrode layer from the potential of the first electrode layer of the photoelectric conversion element in the idling mode is a positive value ($0 < V_{dg}[\text{idle}] < V_{dg}[\text{read}]$) smaller than the potential difference $V_{dg}[\text{read}]$ obtained by subtracting the potential of the second electrode layer from the potential of the first electrode layer of the photoelectric conversion element in the photoelectric conversion mode.

8. (Amended) A system comprising:

[the photoelectric converter according to claim 1, the photoelectric converter having a phosphor for converting input radiation into light;]

a photoelectric converter comprising a
photoelectric conversion element of a laminated structure
comprising:
a first electrode layer,
an insulation layer for blocking the passage
of a first carrier,
a second carrier having different polarity

from the first carrier,

a photoelectric conversion semiconductor
layer,

an injection blocking layer for blocking the
injection of the first carrier to the photoelectric conversion
semiconductor layer,

a second electrode layer,

a switching means is provided for operating
the converter by switching through the following three operation
modes a) through c), in that order, to apply an electric field to
each layer of the photoelectric conversion element:

a) an idling mode for emitting the
second carrier from the photoelectric conversion element,

b) a refresh mode for refreshing the
first carrier accumulated in the photoelectric conversion
element, and

c) a photoelectric conversion mode for
generating pairs of the first carrier and the second carrier in
accordance with an amount of incident light to accumulate the
first carrier;

a signal processing means for processing a signal
from the photoelectric converter;

a recording means for recording a signal from the signal processing means;

a display means for displaying a signal from the signal processing means;

an electric transmission means for electrically transmitting a signal from the signal processing means; and

a radiation source for generating radiation.

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